

Tier 2 engines and later models. This provision does not apply to engines using turbochargers, pumps, blowers, or superchargers for air induction.

(f) The following paragraphs define the requirements for low-emitting Blue Sky Series engines:

(1) *Voluntary standards.* Engines may be designated "Blue Sky Series" engines through the 2004 model year by meeting the voluntary standards listed in Table 3, which apply to all certification and in-use testing, as follows:

TABLE 3.—VOLUNTARY EMISSION STANDARDS  
(G/KW-HR)

Rated Brake Power (kW)	NMHC+NO <sub>x</sub>	PM
kW<8 .....	4.6	0.48
8≤kW<19 .....	4.5	0.48
19≤kW<37 .....	4.5	0.36
37≤kW<75 .....	4.7	0.24
75≤kW<130 .....	4.0	0.18
130≤kW≤560 .....	4.0	0.12
kW>560 .....	3.8	0.12

(2) *Additional standards.* Blue Sky Series engines are subject to all provisions that would otherwise apply under this part, except as specified in paragraph (f)(3) of this section.

(3) *Test procedures.* NO<sub>x</sub>, NMHC, and PM emissions are measured using the procedures set forth in 40 CFR part 86, subpart N, in lieu of the procedures set forth in subpart E of this part. CO emissions may be measured using the procedures set forth either in 40 CFR part 86, subpart N, or in Subpart E of this part. Manufacturers may use an alternate procedure to demonstrate the desired level of emission control if approved in advance by the Administrator. Engines meeting the requirements to qualify as Blue Sky Series engines must be capable of maintaining a comparable level of emission control when tested using the procedures set forth in paragraph (c) of this section and subpart E of this part. The numerical emission levels measured using the procedures from subpart E of this part may be up to 20 percent higher than those measured using the procedures from 40 CFR part 86, subpart N, and still be considered comparable.

[59 FR 31335, June 17, 1994. Redesignated and amended at 63 FR 56995, 57000, Oct. 23, 1998]

#### § 89.113 Smoke emission standard.

(a) Exhaust opacity from compression-ignition nonroad engines for which this subpart is applicable must not exceed:

(1) 20 percent during the acceleration mode;

(2) 15 percent during the lugging mode; and

(3) 50 percent during the peaks in either the acceleration or lugging modes.

(b) Opacity levels are to be measured and calculated as set forth in 40 CFR part 86, subpart I. Notwithstanding the provisions of 40 CFR part 86, subpart I, two-cylinder nonroad engines may be tested using an exhaust muffler that is representative of exhaust mufflers used with the engines in use.

(c) The following engines are exempt from the requirements of this section:

(1) Single-cylinder engines;

(2) Propulsion marine diesel engines; and

(3) Constant-speed engines.

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#### § 89.114 Special and alternate test procedures.

(a) *Special test procedures.* The Administrator may, on the basis of written application by a manufacturer, establish special test procedures other than those set forth in this part, for any nonroad engine that the Administrator determines is not susceptible to satisfactory testing under the specified test procedures set forth in subpart E of this part or 40 CFR part 86, subpart I.

(b) *Alternate test procedures.* (1) A manufacturer may elect to use an alternate test procedure provided that it yields equivalent results to the specified procedures, its use is approved in advance by the Administrator, and the basis for equivalent results with the specified test procedures is fully described in the manufacturer's application.

(2) The Administrator may reject data generated under alternate test procedures which do not correlate with data generated under the specified procedures.

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